REMARKS

Claims 1thru 3 have been canceled. Claims 4 and 5 have been amended. Claim 7 has been added. No new matter has been added by the amendments and new claim.

1. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

> The Examiner states that "Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: (i) measuring or removing collagen degradation products present in the sample; (ii) reacting antibodies with a sample comprising collagen; (iii) incubating the sample containing the antibodies to form reaction products or complexes; and (iv) detecting the reaction products or antibody-collagen complexes.
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> Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: (i) a step that correlates the number of complexes formed to the rate of type II collagen resorption.
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> Correction is required to particularly point out and distinctly claim the subject matter which applicant regards as the invention.".

Claims 1 and 2 have been canceled. Claims 3 thru 6 ultimately depend from either claims 1 or 2. Consequently, the basis for the above cited rejection is obviated.

2. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Eyre or in the alternative under 35 U.S.C. 103(a) as being unpatentable over Eyre (US 5,320,970).

> The Examiner states that "Eyre discloses a method for determining collagen degradation by quantitating the concentration of a peptide capable of binding to monoclonal antibodies. Note the abstract. Eyre discloses preparation of monoclonal antibody to "[A fraction enriched in the peptide of Formula III (indicative of bone collagen degradation)...]" Eyre also disclose screening for reactive monoclonal antibodies using P1 antigen. See column 9, lines 34-68. In addition, Eyre disclose "[Sandwich assays were also shown to work using the P1-specific monoclonal antibody and a

polyclonal anti-serum raised in rabbits against conjugated P1. Either P1-specific monoclonal antibodies, polyclonal antiserum, binding specifically to P1 from urine, in a detectable manner using standard ELISA and other immunoassay protocols.]" See column 10, lines 33-44.

With respect to the limitations of instant claim 2 which recites "[A method of measurement of the rate of type II collagen resorption]", Eyre disclose a method for determining the rate of bone resorption which reacts a body fluid with "[A composition comprising peptides produced by digesting bone collagen with a protease capable of generating peptides that bind to the monoclonal antibody 1II11...]". See column 15, lines 14-23 and column 16, lines 1-32. In regards to the type II collagen fragments, Eyre disclose "[[The P2 telopeptide has a hydroxylysyl pyridinoline cross-link derived from the C-terminal telopeptide domain of type II collagen and the following amino acid sequence:...]]" With respect to the instant epitope claim limitations, Eyre disclose "[Characteristics of a Preferred Epitope The epitope recognized by the antibody Mab-1II11 is embodied in the structure of P1.]" See column 10, line 44-68 and column 11, lines 1-55. Hence, Eyre disclose all the limitations described in the instant claims except for addressing a step for measuring the amount of type II collagen antibody-fragment complexes formed in the collagen sample.

However, regarding the step of measuring the amount of type II collagen antibody-fragment complexes formed in the instant invention, Eyre disclose (i) a method for determining the rate of bone resorption by a biological sample with specific antibodies; and (ii) Eyre disclose the P2 peptide has been derived from the peptide domain of type II collagen and an amino acid sequence. Note column 9, lines 60-68; and column 10, line 44-68 and column 11, lines 1-55. Also, it is noted that type II collagen antibody-fragment complexes would inherently form in the collagen samples of the Eyre disclosure because bone collagen naturally comprises type II collagen.

Hence, the Eyre reference discloses all the claimed limitations except for addressing the inherent formation of type II collagen complexes in bone collagen which anticipates or renders obvious the present invention.

The burden of proof is on applicants to show patentably distinct differences between the instant methods and the sandwich assays described in the Eyre disclosure.".

Claims 1 thru 3 have been canceled. Claims 5 and 6 are now ultimately dependent from claim 4 which has been amended to include all of the limitations of the base claim, as well as, all of the omitted steps recited under the 35 U.S.C. 112 rejection. Consequently, the basis for the above cited rejection is obviated.

3. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim4, which was dependent from claim 2, has been amended to include all of the limitations of the base claim, as well as, all of the omitted steps recited under the 35 U.S.C. 112 rejection.

Applicants request the entry of the changes to the claims requested above. No new matter has been added by the amendments to the claims. Applicants submit that the present application and claims, as amended, is in condition for allowance, and, accordingly, early consideration and allowance of the application is respectfully requested.

If for any reason an additional fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. **04-1105**. If the undersigned can be of any assistance in advancing the prosecution of this case, the Examiner is invited to contact him through the information given below.

Respectfully submitted,

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